Transitional Year Residency Program

Competency based goals and objectives by rotation:

Rotation name: Cardiology Elective **Location: Lahey Clinic**

Overview

The Department of Cardiovascular Medicine at Lahey Clinic has a busy clinical service as well as state-of-the-art laboratories in the diagnostic and therapeutic cardiac disciplines. This affords the medical resident a wide variety of experiences.

The cardiovascular elective is open to Tufts Transitional Year Residents, all of whom also will have participated in a separate critical care unit (CCU) rotation or be scheduled to do so. The resident is an active member of the Cardiology consult team, along with an attending, a fellow, and the occasional Tufts University medical student. The focus in this elective is on inpatient consultative cardiology, with exposure to the CCU environment as well as inpatient consults to the Cardiology service from the wards, CCUs, and emergency room.

Educational Objectives

This rotation provides an excellent opportunity for the resident to acquire experience in the management of a broad range of acute and chronic cardiovascular diseases, including myocardial infarction, unstable angina, chronic coronary artery disease, evaluation of chest discomfort, use and limitations of noninvasive and invasive cardiac testing, congestive heart failure, arrhythmias, lipid disorders, hypertension, peripheral vascular disease, valvular heart disease, cardiomyopathy and pulmonary heart disease, as well as preoperative evaluation of patients with known or suspected cardiac disease. The resident is expected to consider the etiology, pathogenesis, clinical presentation and natural history of the condition encountered.

The medical resident will work in conjunction with medical house staff and a cardiology fellow, and under the supervision of a cardiology attending. The rotation is flexible in format, and to supplement the hands-on clinical experience, depending on interest, the resident can spend variable amounts of time on electrocardiogram (ECG) interpretation, echocardiography interpretation with emphasis on basic cardiac anatomy, physiology and pathophysiological correlation.

At the end of the rotation, the resident will be proficient in the following common areas of clinical cardiology:

- Diagnosis and management of chest pain
- Use and limitations of noninvasive and invasive testing
- Diagnosis and management of acute coronary syndromes
- Diagnosis and management of congestive heart failure
- Diagnosis and management of atrial and ventricular arrhythmias

- Diagnosis and management of cardiomyopathy
- Diagnosis and management of dyslipidemia
- Preoperative evaluation of patients with known or suspected cardiac disease

Schedule and Responsibilities

The medical resident should start the day with CCU rounds with house staff at 8 am, and attend CCU teaching rounds. The medical resident will work with the two or three cardiology fellows on the clinical service, comprised of a fellow assigned to the CCU and a fellow assigned to the inpatient hospital service outside the CCU. The medical resident is expected to work up one to two patients per day, and follow and write daily progress notes on those patients after discussion with the cardiology fellow or attending.

The learning objectives are achieved through direct patient care as well as close observation of clinical management of cardiology patients who are not necessarily being directly followed by the medical resident. It is important for the medical resident to gain exposure to CCU as well as non-CCU cardiology patients, but depending on level of interest, the resident may devote more time to one environment than the other.

Medical residents are encouraged to become involved in directly witnessing test performance and/or test results on patients they follow (i.e., witness exercise tests, review actual radiologic films, nuclear scans, echo results and cardiac catheterization data).

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CCU Work Rounds (Fellow, residents, nurses):

Monday/Tuesday/Wednesday 8:30 am to 10:30 am
Thursday/Friday 9:00 am to 10:30 am

CCU Attending Teaching Rounds:

Monday/Tuesday Clinical Wednesday Electrophysiology 10:30 am to 11:30 am
Friday Interventional

Educational Didactic Conferences

In addition to the CCU Attending Teaching Rounds, the medical resident is expected to attend the following weekly conferences:

Tuesday, Noon to 1 pm
1st: ECG conference
2nd: Journal club
3rd: Echo conference
4th: Fellow presentation
5th: Morbidity and mortality (M&M conference)

Wednesday, Noon to 1 pm
1st: Cath/Nucl
2nd: Morbidity and mortality

3rd: Cath/Nucl
4th: EPS
5th: Open/research

Thursday, 8 am to 9 am Cardiology Didactic Lecture Series

- All conferences take place at the cardiology conference room 5N-67.

- The medical resident is expected to make arrangements (around clinical work) to attend all three weekly cardiology conferences.

- Please check weekly conference schedule for any changes in the conference schedule (available through secretary).

- An ECG conference targeted toward third-year Tufts University medical students takes place on most Tuesdays, 7:30 am to 8:30 am. The medical resident is welcome to attend.

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The medical resident is encouraged to utilize "open time" between clinical work for

- Didactic reading about cardiology conditions/ patients they have encountered that day. Look up relevant topics from the literature

- Additional reading of ECGs to refine their interpretive skills in this basic but initially intimidating activity. This can be arranged with the Cardiology fellow. Alternatively, you may feel free to introduce yourself to the Cardiology attending assigned to the ECG rotation that week and make individual arrangements to spend thirty minutes to an hour in a given day

- Witnessing selected cardiology procedures such as transesophageal echocardiography, cardiac catheterization, angioplasty or electrophysiology study. Again, feel free to introduce yourself and make appropriate arrangements. Attendings are accustomed to medical residents and enjoy this interaction whenever logistically feasible. Direct witnessing of up to three of these procedures in a given rotation can be a valuable experience, though higher numbers beyond this generally are not worthwhile

Principle Educational Goals Based on the ACGME General Competencies

In the tables below, the principle educational goals of the cardiovascular disease curriculum are listed for each of the six ACGME competencies:

1) Patient Care
2) Medical Knowledge
3) Practice-Based Learning and Improvement
4) Interpersonal and Communication Skills

5) Professionalism
6) Systems-Based Practice

The abbreviations for the types of learning environments are defined below.
Learning Environments:
SDPC Supervised direct patient care
WR Work rounds
CDL Cardiology didactic lectures
DSP Directly supervised procedures

1) Patient Care

Objective	Learning Environments
Perform a history and examination	SDPC, WR
Formulate and carry out effective management plans	SDPC, WR
Clearly and succinctly document patient management in the medical record	SDPC, WR
Competently perform procedures (Read ECGs, read stress tests, read echocardiographs, interpret pulmonary artery tracings, perform central lines, etc.)	DSP, CDL

2) Medical Knowledge

Objective	Learning Environments
Application of basic knowledge of pathophysiology to the diagnostic and therapeutic process	SDPC, WR, CDL
Development of an appropriate, efficient differential diagnosis	SDPC, WR, CDL
Interpretation of lab data, electrocardiograms, noninvasive cardiac images, radiologic images	SDPC, WR, CDL

3) Practice-Based Learning

Objective	Learning Environments
Identify deficiencies in knowledge base and develop independent reading program to address these gaps	SDPC, WR, CDL
Effectively perform a literature search to answer clinical questions	SDPC, WR, CDL
Attendance at section teaching conferences	CDL

4) Interpersonal and Communication Skills

Objective	Learning Environments
Communicate accurately and compassionately with patients and their families	SDPC, WR
Professionally interact with entire health care team	SDPC, WR

5) Professionalism

Objective	Learning Environments
Treat all patients, health care providers and hospital employees with respect and integrity	SDPC, WR
Maintain patient confidentiality at all times	SDPC, WR, CDL

6) Systems-Based Practice

Objective	Learning Environments
Proper use of ancillary services including the pulmonary function testing lab, laboratory and radiologic testing, and consultation from other clinical services	SDPC, WR, CDL
Demonstration of an understanding of the available resources for continuing patient care	SDPC, WR
Ability to gather pertinent clinical information from other caregivers	SDPC, WR

Resident Evaluation

Residents are informally evaluated on an ongoing basis by the attending and the cardiology fellow. Any deficiencies that are identified are quickly rectified. In addition, attendings who have worked with the resident are required to complete official evaluation forms, which are filed in the resident's record. The director of the residency program, in conjunction with the resident, reviews these evaluation forms.

Cardiovascular Curriculum Checklist

Setting: **I** (inpatient) **O** (outpatient)	Date
Arrhythmias	
Atrial	

Conduction abnormalities
Ventricular
Pacemaker management
Congenital heart disease
Congestive heart failure
Acute pulmonary edema
Chronic CHF
Coronary artery disease
Angina, chronic stable
Angina, unstable
MI: complicated
MI: uncomplicated
MI: follow-up
Post-op care CABG, PTCA
Endocarditis
Hypertension
Chronic stable HTN
HTN crisis
Secondary HTN
Myocardial disease
Cardiomyopathy
Myocarditis
Pericardial disease
Acute pericarditis
Tamponade
Preoperative evaluation on cardiac patient
Valvular heart disease
Vascular disease
Aortic disease
Arterial insufficiency
Chronic venous stasis

DVT
Aneurysm (atherosclerotic, mycotic)
Aortic dissection